

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Patent Application No. 10/754,390

Applicant: Prasad et al.

Filed: January 9, 2004

Confirmation No.: 7753

TC/AU: 3727

Examiner: Muller, Bryan R.

Docket No.: 100196 (LVM Reference No. 223279)

Customer No.: 29050

**APPELLANTS' SUPPLEMENTAL REPLY BRIEF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Appellants hereby submit a Supplemental Reply Brief to the Supplemental Examiner's Answer. The Supplemental Examiner's Answer was mailed by the U.S. Patent and Trademark Office on November 20, 2008, thereby making this Supplemental Reply Brief due January 20, 2009. This Supplemental Reply Brief is provided in further support of the appeal of the decision of the final rejection of claims 1-21, as set forth in the Office Action dated January 3, 2008.

*Status of Claims*

Claims 1-21 are currently pending, stand rejected, and are the subject of this appeal.

*Grounds of Rejection to be Reviewed on Appeal*

(A) Claims 1-7 and 16-20 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over Reinhardt (i.e., U.S. Patent 6,095,902) in combination with Lakes (i.e., U.S. Patent 4,668,557) and Furukawa et al. (i.e., WO 03/058698 A1 (U.S. Patent Application Publication 2005/0107007 A1 as an English language equivalent)).

(B) Claims 8 and 10 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over Reinhardt in combination with Lakes and Furukawa et al. in further combination with Sevilla et al. (i.e., U.S. Patent 6,126,532).

(C) Claim 9 is rejected under 35 U.S.C. § 103(a) as allegedly obvious over Reinhardt in combination with Lakes and Furukawa et al. in further combination with Suzuki et al. (i.e., U.S. Patent 6,120,353).

(D) Claims 11-13 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over Reinhardt in combination with Lakes and Furukawa et al. in further combination with Osterheld et al. (i.e., U.S. Patent 6,241,596).

(E) Claims 14, 15, 21 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over Reinhardt in combination with Lakes and Furukawa et al. in further combination with Tang (i.e., U.S. Patent 5,949,927).

*Argument*

The Supplemental Examiner's Answer provides arguments in response to Appellants' Reply Brief, dated August 12, 2008. Specifically, the Supplemental Examiner's Answer addresses the rejection of appealed claims 1-7 and 16-20 as allegedly obvious over the combination of Reinhardt, Lakes, and Furukawa et al.

The Supplemental Examiner's Answer focuses on the teachings of Furukawa et al., as well as the propriety of the Examiner's reliance on the same to support the obviousness rejections of the appealed claims. In particular, the Examiner makes three points regarding Furukawa et al.: First, Furukawa et al. "is merely provided as extrinsic evidence to support to Examiner's statement that abrasion resistance is a desired property for polishing pads." Second, Furukawa et al. "does not teach that *all* porous pads fail to satisfy the requirements [of desired polishing pads]." Third, because Furukawa et al. "has no mention of Poisson's ratio," it does not teach away from porous polishing pads with a negative Poisson's ratio (Supplemental Examiner's Answer, pp. 3-4).

With respect to the Examiner's first point, Appellants' note that even assuming, as the Examiner contends, that Furukawa et al. is "merely provided as extrinsic evidence," the reference must nonetheless be considered as a whole for all that it teaches:

It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.

*In re Hedges*, 783 F.2d 1038, 1041, 228 U.S.P.Q. 685, 687 (Fed. Cir. 1986), citing *In re Wesslau*, 353 F.2d 238, 241, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965); see also *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 448, 230 U.S.P.Q. 416, 419 (Fed. Cir. 1986). Thus, to the extent that Furukawa et al. "will support a given position," in this case, that "abrasion resistance is a desired property for polishing pads" (Supplemental Examiner's Answer, p. 3), this teaching cannot be considered "to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art," namely, the teaching of Furukawa et al. that the *inherent structure* of porous materials causes short pad life, which prevents porous polishing pads from achieving several

desired properties, including improved abrasion resistance. This teaching is discussed in detail immediately below with respect to the Examiner's second point.

The Examiner next contends that Furukawa et al. "merely states that porous polishing pads **may** not always satisfy the three requirements [of desired polishing pads]" (Supplemental Examiner's Answer, p. 4). However, Appellants' note that Furukawa et al., as quoted by the Examiner, teaches that *all* porous, i.e., closed cell and open cell, polymeric materials suffer from the following structural limitations:

[S]ince it is difficult to secure uniformity in reaction temperature and uniformity in foaming factor throughout the entire reaction vessel in the production of said [porous polyurethane] polishing pads, it is *difficult to produce products that are uniform* throughout the polishing pads. Also since slurry components or products generated during polishing tend to precipitate in the above hemispheric recesses in said pads, they have a drawback of *clogging by precipitates in a relatively short period of time*. Thus, in order to maintain a high polishing speed, it is necessary to remove the clogged region on the surface of the polishing pad with the dresser frequently. Thus, they have-problems [sic] that *long dressing time in a total during polishing* is required and that the *polishing pad has a short life*.

(paragraph 0012) (emphasis added). According to Furukawa et al., the above structural limitations – necessarily present in all porous polishing pads – prevent porous polishing pads from achieving numerous desired properties (paragraph 0012). As such, Furukawa et al. teaches the use of nonporous materials to overcome these limitations and to achieve, for example, improved abrasion resistance (paragraphs 0018 and 0025-0026).

With respect to the Examiner's third and final point, Appellants note that Furukawa et al. "has no mention of Poisson's ratio" (Supplemental Examiner's Answer, p. 4), because it teaches that *all* porous polishing pads – regardless of Poisson ratio – have inherent structural limitations that hinder the ability to achieve desired properties such as improved abrasion resistance. As discussed above, when the teachings of Furukawa et al. are properly considered in their entirety, one of ordinary skill in the art would recognize that Furukawa et al. teaches that only *nonporous* polishing pads can be used to achieve increased abrasion resistance.

In order to arrive at the present invention by combining the teachings of Reinhardt (teaches a porous or nonporous polishing pad, but does not disclose a porous polymer material having a negative Poisson's ratio), and Lakes (teaches the benefits of negative Poisson ratio materials in applications other than polishing), one of ordinary skill in the art, at the time of invention, would have had to ignore the stated preference of Furukawa et al., the linking reference, for *nonporous* polymeric materials due to the *inherent structural* limitations of porous materials. Thus, contrary to the Examiner's arguments, one of ordinary skill in the art at the time of the invention would not have been motivated to replace one porous polymeric material, i.e., a positive Poisson ratio material, with another porous polymeric material, i.e., a negative Poisson ratio material, based on the disclosure of Furukawa et al. alone or in combination with Reinhardt and Lakes.

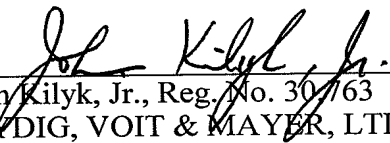
Appellants respectfully submit that the subject matter defined by appealed claims 1-7 and 16-20 is not obvious over the combination of Reinhardt, Lakes, and Furukawa et al., and that the obviousness rejection should be reversed.

For the reasons discussed in Appellants' Appeal Brief, Appellants maintain that the rejections of appealed claims 8-15 and 21 as allegedly obvious over the combination of Reinhardt, Lakes and Furukawa et al., in further combination with one of Sevilla et al. (regarding claims 8 and 10), Suzuki et al. (regarding claim 9), Osterheld et al. (regarding claims 11-13), and Tang (regarding claims 14, 15, and 21) are also improper and should be reversed (Appeal Brief, pp. 6-8).

*Conclusion*

For the foregoing reasons, as well as those set out in the Appellants' Appeal Brief and Appellants' Reply Brief, Appellants respectfully urge that the Examiner's rejections be reversed.

Respectfully submitted,



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